

Abstract of the Disclosure

The present invention relates to a transplant rejection in an animal suppressed by administration of an antibody directed at a cell surface antigen selected from the group consisting of CD4, CD8, CD154, LFA-1, CD80, CD86 and ICAM-1, preferably an anti-CD4 antibody, together with a non-cellular protein antigen to generate in the animal a population of regulatory T-lymphocytes; reactivating said population of regulatory T-lymphocytes by further administration to the animal of the non-cellular protein antigen; and transplanting said organ or tissue whilst said population of regulatory T-lymphocytes is activated. Regulatory T cells can be generated *ex vivo* by culturing T cells with an antibody directed at a cell surface antigen selected from the group consisting of CD4, CD8, CD154, LFA-1, CD80, CD86 and ICAM-1, in the presence of cells that present either alloantigen or a non-cellular protein antigen. *Ex vivo* generated T-lymphocytes can be used as an alternative method of overcoming transplant rejection or in combination with the *in vivo* method. A similar approach can be adopted for the treatment of autoimmune conditions.